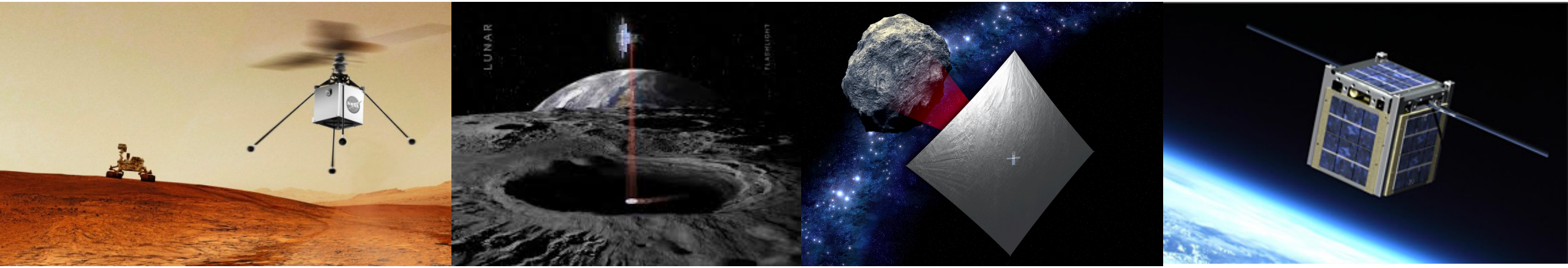
Cubesats and Flight Software



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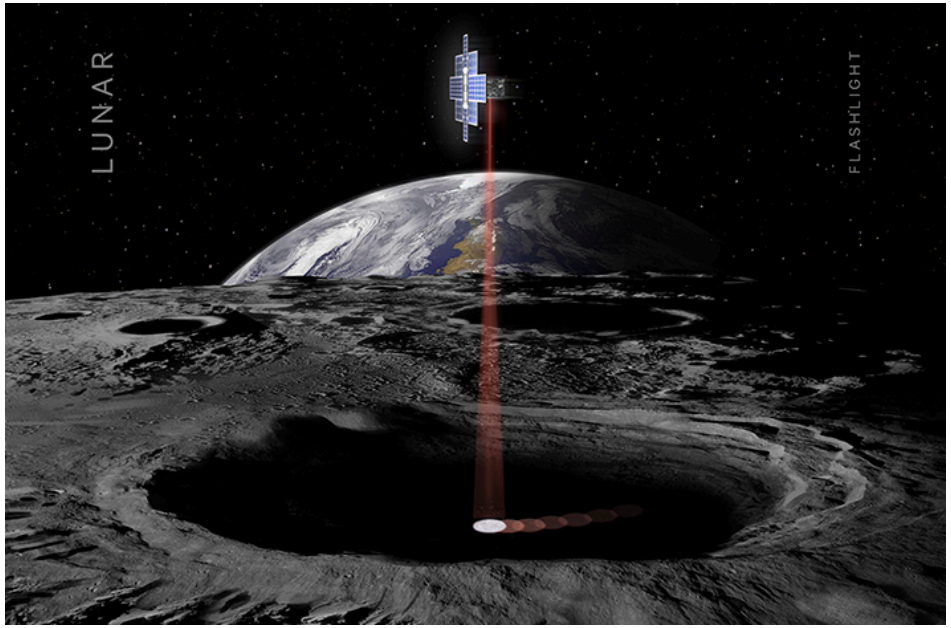
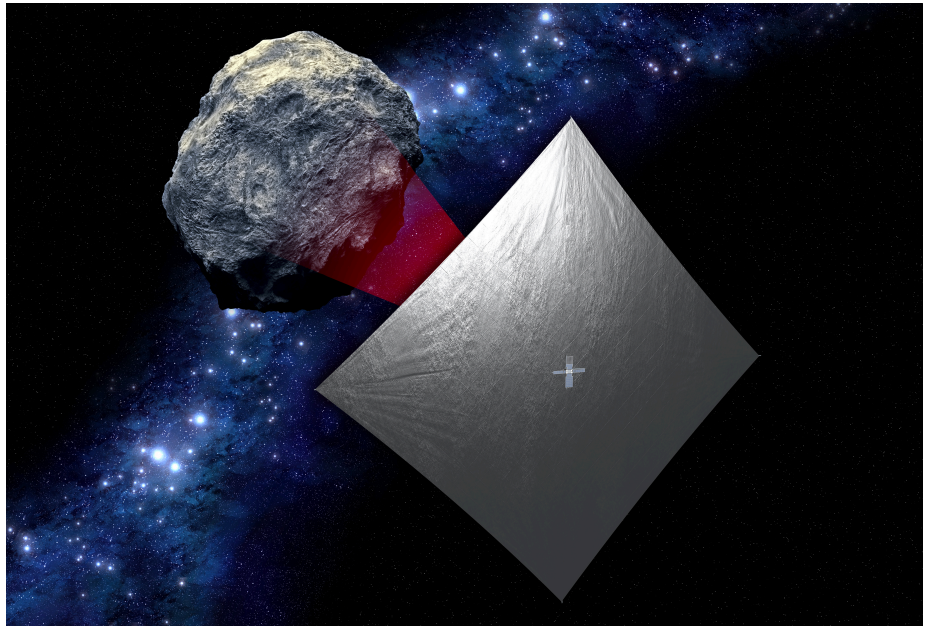
Lunar Flashlight and Near Earth Asteroid (NEA) Scout Missions



Lunar Flashlight

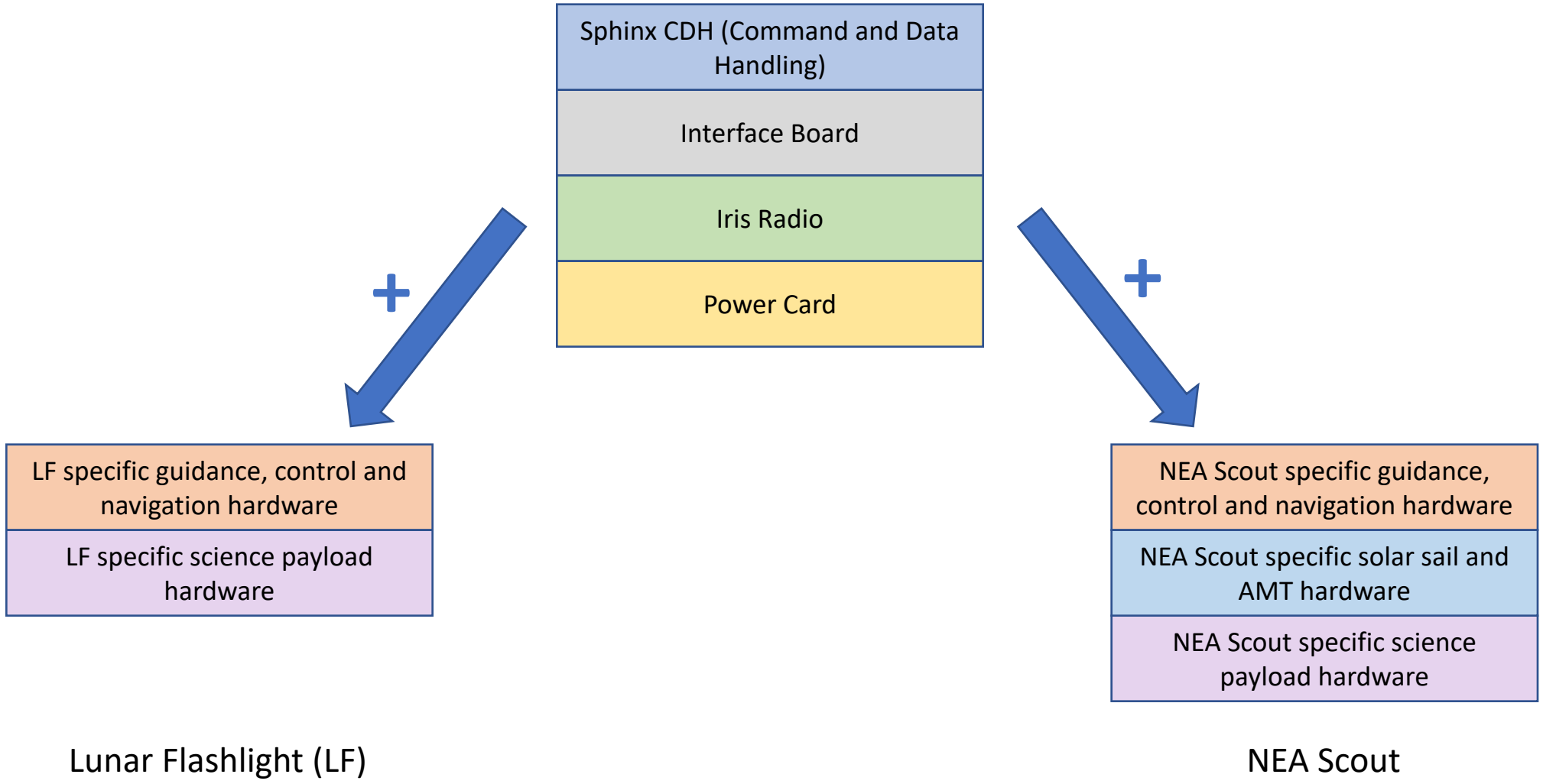
- 6U cubesat mission to explore, locate and estimate size and composition of ice deposits on the Moon
- Lunar polar orbit
- Uses lasers and spectrometer to measure surface reflection and composition



NEA Scout

- 6U cubesat mission to fly by and return data from an asteroid representative of NEAs that may one day be human destinations.
- Robotic reconnaissance mission
- Uses a science-grade multispectral camera for imaging

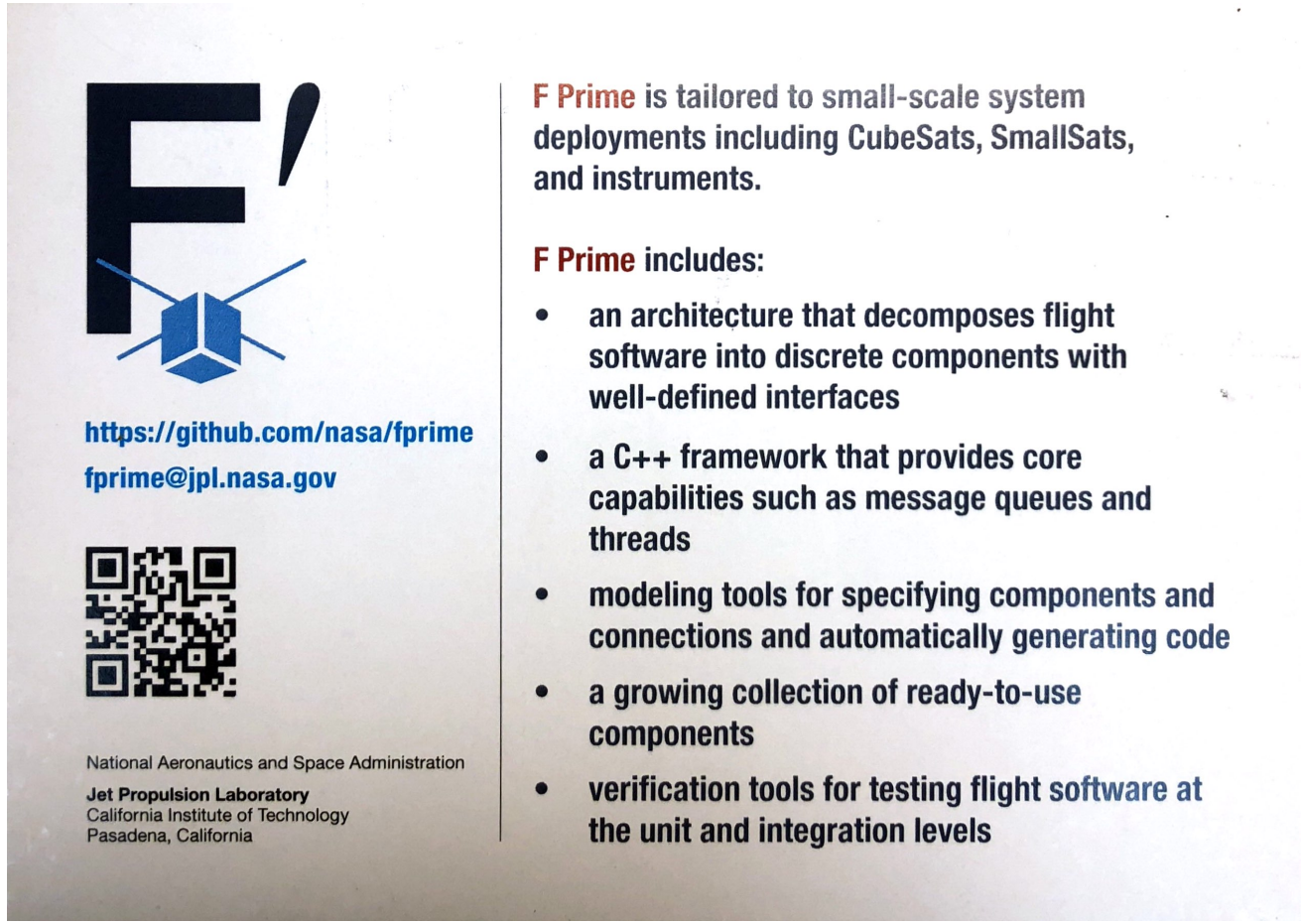
Hardware Configurations



Flight Software

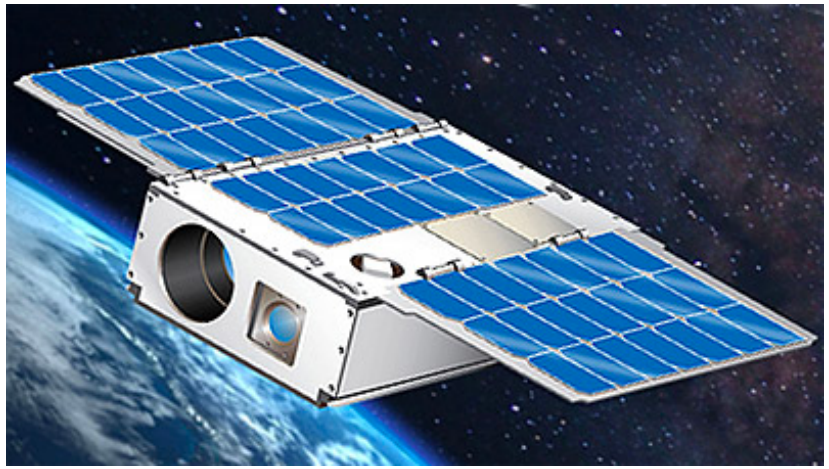
Provides several services on-board the spacecraft including: -

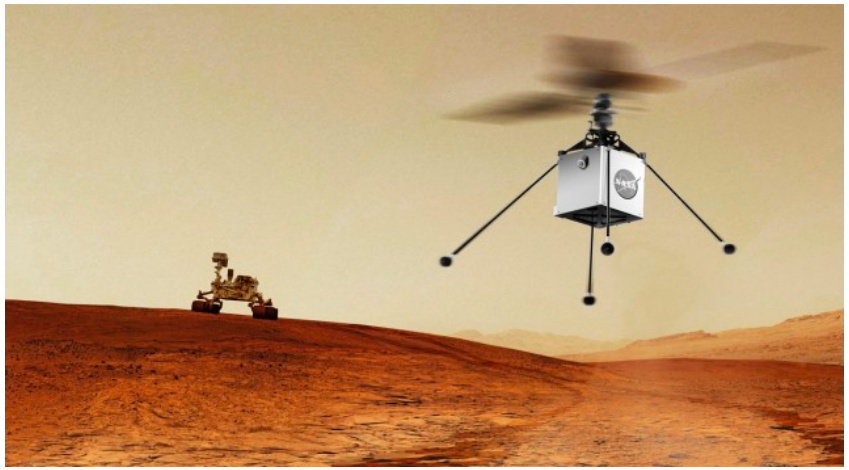
- Commanding
- Telemetry
- Uplink
- Downlink
- Rate Groups
- Instrument/HW Interfaces
- Health Monitoring
- Spacecraft Time
- Fault Protection
- Memory/Data Management

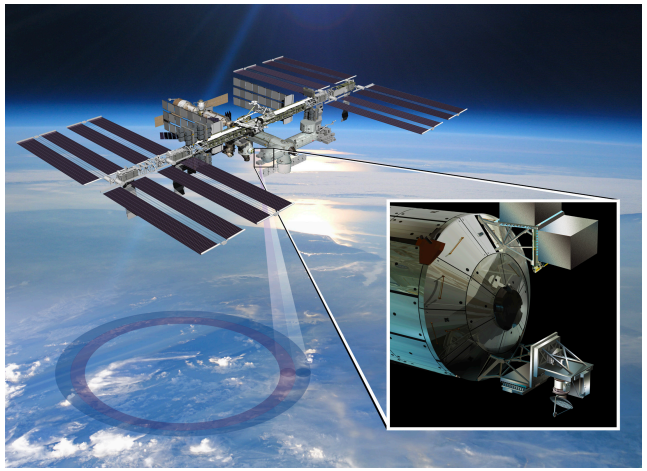


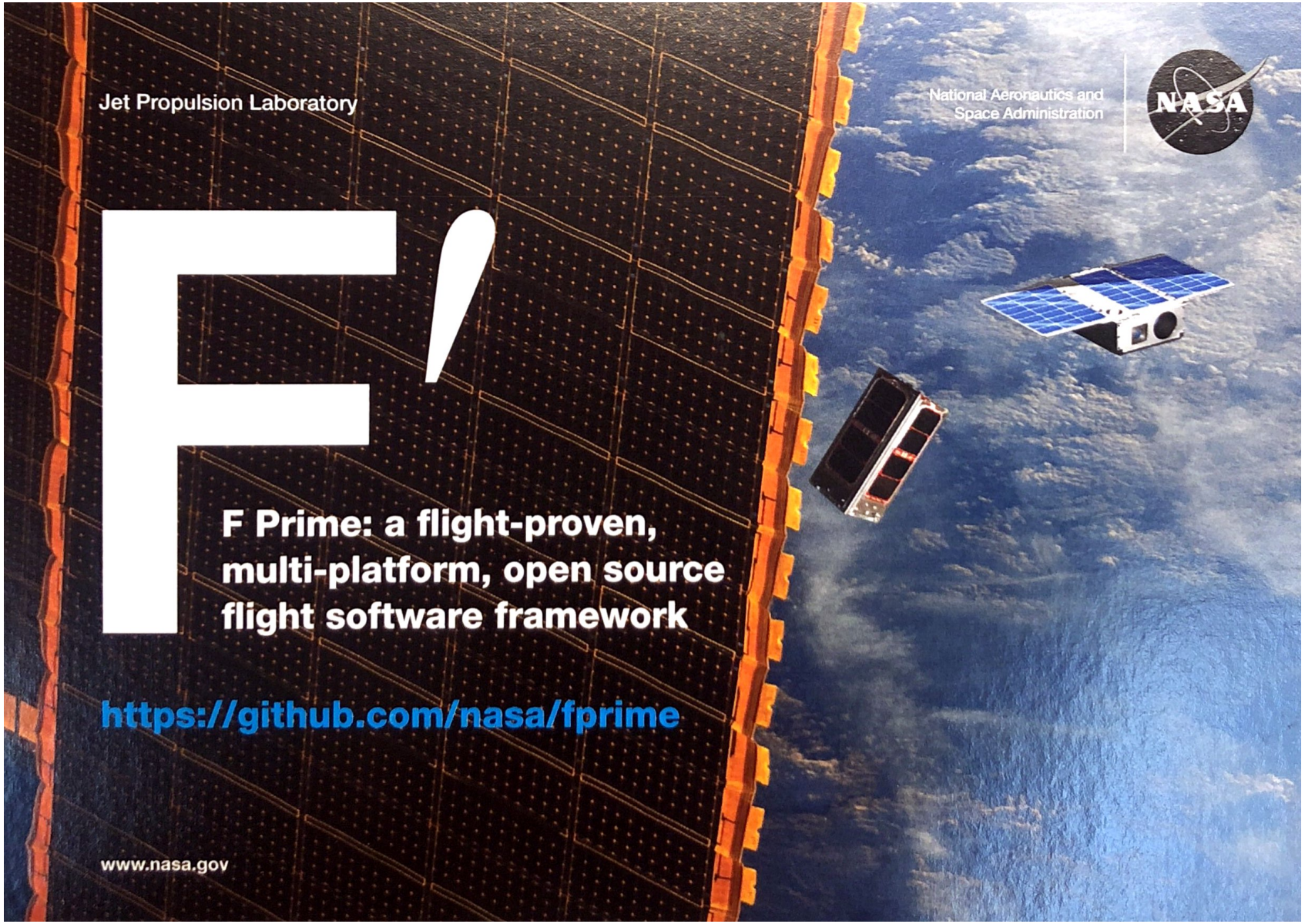
Other F Prime Deployments

- ISS RapidScat
- ASTERIA
- Mars Helicopter Scout
- Europa Lander (motor controller board) - planned





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F'
F Prime: a flight-proven, multi-platform, open source flight software framework
https://github.com/nasa/fprime
www.nasa.gov

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GROUNDABLE POINT